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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/481,351	01/12/2000	DAVID R. PAYNE	082380-00339	5540

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EXAMINER

ADDIE, RAYMOND W

ART UNIT	PAPER NUMBER
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3671

DATE MAILED: 10/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/481,351

Applicant(s)

PAYNE ET AL.

Examiner

Raymond W. Addie

Art Unit

3671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 08 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11,21 and 23-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11,21 and 23-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>9, 10</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 1-4, 6-11, 21, 23-25-45,47-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Alft # 6,308,787.

Alft discloses a horizontal drilling system comprising:

A horizontal drilling machine (12).

A drill string (22) having a 1st and 2nd end.

A drive system (17, 19) operatively connectable to the 1st end of the drill string. Said

Drive system permits advance of the drill string through the earth.

A down hole tool (24) connectable to the 2nd end of the drill string.

A machine control system (25) adapted to operate the drilling machine.

Said control system comprising:

A plurality of sensors (27). Each sensor positioned to sense data relative to at least one of a plurality of parameters defining the operation of the drilling machine.

Art Unit: 3671

A main control circuit (see col. 13, lines 45-58), which receives data from the plurality of sensors and automatically operate the drilling machine in response to the data.

See Col. 3, lines 5-20, Col. 12, lines 24-col. 13, line 43; col. 14, lines 48-60, col. 15, lines 5-25, col. 27, lines 16-43, col. 18, lines 35-col. 19, line 55.

In regards to claims 2, 43 Alft discloses a pipe handling system (17, 19), which extends the drill string. As well as a plurality of pipe handling sensors and pipe handling control circuitry to operate the pipe handling system. See col. 12, lns 53-65, col. 13, lns 14-16.

In regards to Claims 3, 44 Alft discloses the use of pipe sections connectable at threaded pipe joints. See col. 12, lines 12-28.

In regards to Claims 4, 45 Alft discloses a pipe handling system comprises:

A pipe handling assembly (74, 146, 141) adapted to transport pipe sections to and from a connection area.

A drill string length modification assembly (141) adapted to make up and break out a drill string.

A pipe handling sensor group (152, 162) comprises a pipe handling assembly sensor group (162, 152) and a drill string length modification sensor group.

A pipe handling assembly, control circuitry to receive data from the pipe handling assembly sensor group and to automatically operate the pipe handling assembly.

A drill string length modification circuitry to receive data from the drill string length modification assembly sensor group and to automatically operate the drill string length modification assembly. See Col. 30, line 19-col. 33, line 44.

In regards to claims 6, 47 Alft discloses the pipe handling system further comprises a fluid dispensing system adapted to pump fluid through the drill string to the downhole tool. Said dispensing system comprises a plurality of sensors, a main control circuit comprises a fluid dispensing control circuitry adapted to receive data from a fluid dispensing sensor group and automatically operate the fluid dispensing system. See Col. 36, line 33-col. 37, line 67.

In regards to Claims 7-11, 32-42, 48, 50, 51 Alft discloses the use of a variety of sensor groups to include but not limited to guidance, tracking, power management, location and identification instrument packages, as well as a main control circuit (110) to process data transmitted by the different sensor group. See col. 22, line 44-col. 23, line 49; col. 25, line 6-col. 26, line 19; col. 26, lines 46-col. 27, line 65.

In regards to Claim 21 Alft discloses essentially all that is claimed, as put forth with respect to Claim 1 above, and further discloses the machine control system is further adapted to receive data signals from a remote location (30) the data signals being indicative of the depth and geographic location of the down hole tool,

such that the control system automatically operates the drilling machine in response to the data signals received. See col. 15, lines 10-19, and col. 19, lines 11-45.

In regards to Claims 23, 25, 49 Alft discloses essentially all that is claimed, as put forth with respect to Claim 1 above, and further discloses the drive system is operatively connectable, to a first end of the drill string, to axially move the drill string through the earth. As well as a fluid dispensing assembly adapted to detect data relating to at least one parameter characteristic of the operation of the machine and at least one parameter characteristic of the environment of the drilling machine. See col. 9, ln 1- col. 11, ln 62.

In regards to Claims 24, 53- 56 Alft discloses a method for using a horizontal drilling machine (12), having a plurality of automated functions, the machine comprising a drill string (22) to which a underground tool (24) is attached. The method comprising the steps of:

Selecting a path along which the underground tool is to be used. See col. 29, lns. 9-25.

Automatically operating a select group of automated functions, in order to;

Axially advance the drill string so as to move the underground tool along at least a portion of the selected path. See Col. 29, line 31-Col. 30, lines 19-65.

Automatically controlling a power system (90) providing power necessary to axially advance the drill string. See col. 12, line 61-col. 13, line 21.

Automatically providing drilling fluid to the underground tool (30) while axially advancing the drill string. See col. 13, line 22- 30.

Automatically extending a drill sting (22), used to axially advance the underground tool (24) along the selected bore path. See col. 13, lines 8-12.

Automatically tracking the position of the underground tool (30) along the selected bore path. See col. 14, lines 27-60.

In regards to claims 26, 27 Alft discloses the main control circuit (25, 32) automatically operates the pipe handling function by sending at least one control signal to the pipe handling assembly(19), based on data received by the control circuitry via a plurality of sensors (27). See col. 15, lines 5-65, col. 16, lines 15-30; col. 17, lines 15-43.

In regards to Claims 28-31, 52 Alft discloses the main control circuit (32, 74) automatically operates the fluid control function by sending at least one control signal to the fluid dispensing assembly (200, 201) as well as the desirability to use flow rate of a product, pressure, temperature and other drilling related sensors. See col. 11, Ins. 14-30; col. 36, lines 33-67.

Claim Rejections - 35 USC § 103

2. Claims 5, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alft # 6,308,787 in view of Terry et al. # 6,296,066.

Alft discloses essentially all that is claimed, as put forth with respect to Claims 1, 23 above, but does not disclose a pipe lubrication system as cited in Claims 5, 44.

However, Terry et al. discloses a pipe lubrication assembly (20, 46, unnumbered heat exchanger) adapted to lubricate selected pipe joints. A pipe lubrication sensor group and pipe lubrication control circuitry (110) adapted to receive data from the pipe lubrication assembly sensor group and to automatically operate the pipe lubrication assembly. See col. 11, line 62-col. 12, line 9; col. 14, lines 8-19. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the horizontal drilling system of Alft, with a pipe lubrication system, in order to facilitate drilling in high temperature, subterranean environments; as taught by Terry et al., col. 12, lines 4-10.

Response to Arguments

3. Applicant's arguments with respect to claims 1-11, 21, 23-56 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 2/20/2002 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Addie whose telephone number is (703) 305-0135. The examiner can normally be reached on Mon-Fri from 6:30 am to 3:00 pm.

Art Unit: 3671

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703) 308-3870. The fax phone number for this Group is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



Thomas B. Will
Supervisory Patent Examiner
Group 3600

RWA
10/11/2002